

The HARPSICHORD



Harpsichord by Richard Jones

photo by James Shade

HARPSICHORD

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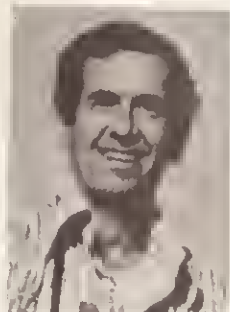
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GO FOR BAROQUE

by *Hal Haney*



In the issue, I quote Denise Reston saying her organ teacher Joseph Bonnet. This was a misunderstanding on my part, she actually said Jose

Bonnet. The similarity of the two quite remarkable. In addition to same first name and the sound of last name, Bonnet was born in Bordeaux in 1880 and Bonnet was born in Bordeaux in 1884. They were both French organists as well as talented composers and both studied at the Paris Conservatoire. While Denise could have studied with Joseph Bonnet, she actually studied with Joseph Bonnet.

I have an apology to make to Ted Mix of Magnamusic, Sharon, Connecticut. Magnamusic is the United States distributor for the entire line of Neupert Harpsichords and Chords. They supply instruments to your local dealer as well as distribute to consumers a complete packet of information on Neupert instruments. Last year Magnamusic became one of our valued Contributing Members and renewed as a Contributing Member again this year. I just discovered that we have not received our thanks for their membership and their name has not appeared in our Acknowledgements section. Please forgive me, Mr. Mix. My mistakes always seem to be directed toward my best friends. (Incidentally, Neupert has been one of our most loyal advertisers for many years.)

Scott Joplin was born in 1868 and by the time he was 14 he was playing piano in saloons, gambling houses, brothels and other emporiums of entertainment in St. Louis, Sedalia and other towns. He helped usher in

whole new era of native American music . . . Ragtime. Now, nearly 100 years later, harpsichordists are finding that his displaced accents respond beautifully to this revived keyboard instrument. E. Power Biggs has just released a Columbia recording, M32495 titled "E. Power Biggs plays Scott Joplin". On the copyrighted record jacket, Biggs writes: "Incidentally, how is it that an organist (whom you have assumed to be diligently practicing in some cobweb-bedecked organ loft, or possibly scouting for historic organs in Europe) is playing these particular pieces? Well, after all, even Dr. Albert Schweitzer enjoyed jazz, or — as he pronounced it — 'yotz.' For a long time I've sought music for a sequel to the record 'Holiday for Harpsichord,' which I thoroughly enjoyed making. A physician friend plays these rags with telling effect on her piano. She suggested that I try them on the pedal harpsichord, and the pedal harpsichord took them up as if they had been written for it. Though at first glance this ragtime music may seem to be 'Heresy for Harpsichord,' its really a natural." When Mr. Biggs sent me a copy of this delightful album he penned a note which read: "For this I'll probably be expelled from the Harpsichord Society! But I thought it might amuse you." It more than amuses me. It is a fascinating album and hearing Maple Leaf Rag, Sunflower Slow Drag, Peachenne Rag and other Joplin hits played on the pedal harpsichord is an experience that continues to give me pleasure every time I play the recording.

Member Wm. Neil Roberts has four new recordings out and two of them feature compositions of Scott Joplin. Produced by Klavier Record Company, 5652 Willowcrest, North Hollywood, California 91601 and priced at \$5.98 for stereo the new titles are "Great Scott! Ragtime on the Harpsichord" (no. KS 510); "Scott Joplin Ragtime Harpsichord Volume 2" (KS 516); "The Nine Muses, Suites for Harpsichord by J.K.F. Fisher" (KS 506) and "Baroque Harpsichord" works of Bach, Gibbons, Couperin and

Scarlatti. (KS 524). I have not had an opportunity to hear these records and I am not familiar with Klavier Record Company so I can not comment on their quality. However I have just received a Klavier catalog and they are offering some excellent composers and artists. I do know Mr. Roberts' talents at the harpsichord and if these records are anything like his earlier pressings, they would be well worth adding to your library.

Pandora Recordings which are distributed by the University of Washington Press, Seattle, has just released an album (PAN 101) called "The Sound of the Italian Harpsichord" featuring harpsichordist Martha Goldstein. The first side of the record presents music influenced by the Italian style; The second side, Italian music. It includes work by J. J. Froberger, J. S. Bach, Zipoli, G. B. Pescetti and D. Scarlatti. The instrument used was built by Glenn White from a design evolved by him and, B and G Instrument Workshop of Seattle. A review copy was not available at press time but Martha Goldstein has an impressive background including Artist diplomas from Peabody Conservatory and Juilliard. She has concertized in the U. S., North Africa, Middle East and Europe and has taught at Peabody and the Cornish School. This record may be ordered by sending \$3.90 to B and G Instrument Workshop, 318 N. 36th St., Seattle, Washington 98103. It's post-paid.

In a past issue we introduced a new recording company called DELOS and they are keeping their promise to present "exciting artists on records of superior craftsmanship and engineering." Their newest release (DEL 15322) is a real showcase for the extensive talents of Malcolm Hamilton. He plays Handel's Harpsichord Suites in D Minor and G Minor and Chaconne in G Major. Hamilton is numbered among my favorites and this recording certainly does him justice. And he presents these works of Handel in a style that makes them exciting and new. Writing about the music of Handel,

Hamilton said: "It was probably my first-hand acquaintanceship with extemporization in continuo playing that won me over to the hidden beauty, elegance, and greatness of Handel's keyboard suites. Many movements are written out in surprisingly careful detail; others remain in a dormant state of semi-dullness until the player liberates the music (and himself) from the limitation and confinement of the printed note. The moment one treats these particular movements or passages as structural outline and gives free reign to his imagination in filling out and adorning these sketches which Handel has bequeathed to us, a new life and beauty enhances this music, and the whole approach becomes one of collaboration between performer and composer — a hallmark of the music of the Baroque period." On this record, the collaboration is a success. Delos Records is located at 855 Via de la Paz, Pacific Palisades, Calif., 90272.

The "For Sale" sign is up on the building where the Harpsichord office is located so I don't know how much longer we will be there. The building is in need of much repair and the heating leaves much to be desired. The water pipes froze again in the Art Department and water was all over the floor. (That is it was water before it turned to ice.) Because of the cold, about 99% of this issue has been done on my diningroom table. Since I didn't have a diningroom or a diningroom table until the move into my new (1892) house which happened at the same time I was doing this issue things have been quite hectic. And it all took place during Hanukkah, Christmas, and New Year's. Nancy Rodenbough our week-end secretary has left us, so I am miles behind in everything. If you have written to me and have not received a response, one will come. It may be after the spring thaw but it will arrive eventually. Thanks for your patience.

Hal Haney

MORE ABOUT THOSE BEATS YOU HEAR

by Dr. Justin L. Beeson, Research Associate

and

Dr. Kenneth R. Jolls, Associate Professor

Department of Chemical and Nuclear Engineering, Iowa State University, Ames, Iowa

This paper is a sequel to an earlier article describing a method for tuning harpsichords³ in equal temperament. For reasons which will become apparent later, we almost entitled this paper "The Proof of the Pudding Lies in the Eating," since it is an assessment of this method. Here we will describe some investigations which were made using electronic instrumentation to measure the fundamental frequencies of notes in a newly tuned harpsichord. The behavior of beats in the harpsichord sound was also studied by means of oscilloscope displays of the wave envelopes; photographs of some of these displays are presented to show how the sound was converted into a visual display which allowed both the intensity and rate of beating to be measured. Some additional photographs of oscilloscope displays of wave forms are presented to show how the harmonic content of the sound of a plucked string varies with the plucking point.

The starting point of the investigation was to tune a harpsichord using the method described earlier; the harpsichord used was built several years ago from a kit obtained from Zuckermann Harpsichords. A-440 was first set using a tuning fork as a reference; the remainder of the tuning was done by ear. The method used consisted essentially of sounding three notes simultaneously; an octave, and a third note within the octave which formed an interval of a fourth with the lower note and an interval of a fifth with the upper note. The octave is preset in the tuning step immediately preceding. The third note within the octave is first raised above pitch, and then lowered by releasing the tension on the string until no beats are audible when the combination is sounded. The temperament is set by proceeding through a 'circle of fourths.' Due to the masking effect

of rapid sound decay, slow beats are inaudible, so that the resulting fourths and fifths will be slightly wider and more narrow than pythagorean fourths and fifths.

The experimental data presented in this paper were obtained in two sessions which were about three weeks apart. The harpsichord was tuned, and then starting with the C below middle C the fundamental frequencies of all notes up to and including the A above middle C were measured and recorded, making these measurements within a few hours of tuning. The sound of the plucked string was picked up by means of a microphone placed near the strings. The sound signal obtained was amplified and then filtered to remove the upper harmonics, leaving only the fundamental frequency in the signal. An electronic counter was used to measure the period of a single cycle of the fundamental which was subsequently read from a digital readout display. The average of five observations was recorded, and the reciprocal of the average period calculated to obtain the fundamental frequency in cycles per second. The standard error, based on five observations was found to be 0.77% of the frequency being measured.

The observed frequencies obtained in the two tunings are shown in Table 1. The pitch designation is shown in the first column, and the frequency in American Standard Pitch⁴ is shown in the second column. The observed frequencies are shown in the third and fourth columns, and the errors, or deviations from standard are shown in the fifth and sixth columns. On the whole, the observed frequencies can be seen to agree closely with the standard frequencies. While the errors are nearly all positive in the first tuning, about half are negative in the second tuning, indicating that there

is probably no appreciable bias leading to a temperament other than equal temperament. The magnitude of the errors did not show a trend with tuning order; in other words, notes tuned early in the 'circle of fourths' would, on the average, be expected to have the same amount of error as notes tuned late in the temperament setting process.

This is pretty much run-of-mill tuning, and would represent fairly well what an average person can do when using a tuning fork to set a single reference pitch and then deriving all others by ear. Error may also be irreducible due to the difficulty of making very small adjustments with a wrench or key. This is more or less analogous to cracking walnuts with a sixteen pound sledge hammer; it would be very difficult to gauge the blow consistently which would have just enough force to break the shell, leaving the meats within unbroken.

In equal temperament, it is common practice to express intervals in cents rather than integer ratios of a fundamental frequency. The octave consists of 12 steps of 100 cents each, so that the octave in equal temperament is 1200 cents. Any interval in equal temperament, expressed in cents, can be calculated by counting the number of half steps within the interval and multiplying by 100. In general, intervals in cents for any pair of frequencies can be calculated as 1731.227 times the natural logarithm of the ratio of the higher frequency to the lower frequency; the details of this kind of calculation are described by Backus⁵.

To further evaluate the temperament obtained, the scales were converted to cumulative intervals in cents, as shown in Table 2. For convenience, the scale was extended to 2100 cents to avoid counting to 1200 and then starting over again at middle C. The

⁴ — *The Harpsichord*

cumulative intervals for the chromatic equal tempered scale are shown in the second column, and the cumulative intervals formed by the observed frequencies are shown in the third and fourth columns. The small initial values of 4 and 13 cents are due to the deviation of the observed pitch from the standard frequency of 130.81 cycles per second. The cumulative intervals based on the observed frequencies can be seen to agree more or less closely with the standard value shown in the second column, with some being slightly larger, and some slightly smaller.

For comparison, the cumulative intervals for a quarter-comma meantone scale with C as the first tone are shown in the fifth column. These were calculated from the frequency ratios given by Abrahamse¹. When compared with the cumulative intervals in equal temperament, the intervals in meantone can be seen to differ in an ordered fashion from equal temperament, and are in general smaller than those in equal temperament. The deviation of the observed cumulative intervals, however, is not sufficiently ordered to show a bias towards meantone temperament, or any other uniform deviation from equal temperament. On the average, therefore, the tuning method used can be expected to yield an approximation of equal temperament.

Next we will discuss some photographs of oscilloscope displays which are visual representations of sounds as they vary in time. These photographs show the wave envelopes, or pair of symmetrical lines obtained when the peaks (or antinodes) or a wave signal are connected by a smooth line, and are shown in Figures 1 and 2. Amplitude, or displacement from zero is heard as sound; a steady decrease in amplitude (Figure 1a) would be perceived as a sound dying away in time. A regular increase and decrease in amplitude with time (Figure 1b) would be perceived as a sound containing beats.

The wave envelope for a single note in decay is shown in Figure 1a. No beats are present (there is no way

for them to occur); the individual waves, or cycles are very rapid, and appear as vertical lines within the envelope. The total time scale from left to right is two seconds. The sound of the pluck triggered the oscilloscope to make the display, so that plucking effects (which appear to be small) can be seen in the first 0.1 second of the sound; the decay is rapid and logarithmic in character.

As in many experimental investigations, we made an unexpected discovery; in the case where strings near unison are being tuned, sound decay does not mask beats. This is shown in Figures 1b and 1c. In Figure 1b, two strings near unison were tuned to give rapid audible beats, which appear more or less as beads on a necklace. If the total number of beats in the display are counted and divided by 2, a rate of about 9 beats per second is obtained. After tuning the strings more closely to unison, the oscilloscope display shown in Figure 1c was obtained. Here beats occur at the rate of approximately two per second. Notice the small amplitude at the nodes which define the beginning and end of each beat. These beats are well defined because not only the fundamental, but all harmonics in the sound of the two strings are close in frequency, and reinforce beating. This has the happy corollary effect that unisons and octaves can be tuned by ear with a high degree of precision; a slight deviation in pitch in one of the strings will produce audible beats.

Tuning, however, is done in the wider intervals of fourths and fifths, where only a few of the upper harmonics of the two sounds will be sufficiently close in frequency to produce audible beats. In Figure 2a, the wave envelope for the interval A-D is shown in which the interval was deliberately mistuned to produce audible beats. Notice that the displacement at the constrictions defining the beginning and end of each beat is much greater than is shown in Figures 1b and 1c. These beats are less distinct, and are not easily heard.

When the interval A-D was tuned to standard values, the wave envelope

shown in Figure 2b was obtained. Here the beats were inaudible. The change in amplitude with time shows some constrictions marking beats, but these were masked by the decay. If the beats were audible, they would have occurred at the rate of about one per second.

Finally, the individual wave forms (the vertical lines within the wave envelopes) were examined using a technique which had the effect of magnifying a small section of displays such as shown in Figure 1a so that the form of the individual waves or cycles could be seen and studied. In doing this, the total time scale, left to right was reduced to 20 milliseconds.

In Figure 3a, a band-pass filter was used to remove the upper harmonics, leaving only the fundamental frequency in the signal, which appears as a smooth sine wave. The note here was A-220. If the number of complete cycles in the display are counted and the total divided by 0.020 seconds, a figure of approximately 220 will be obtained, verifying that this is the pure fundamental frequency. In Figure 3b, the wave form for the sound when the string is plucked at exact midpoint is shown. In this and subsequent figures, the band-pass filter was removed so that the effects of harmonics could be seen. The wave form in Figure 3b is only slightly altered by overtones; a repeating pattern defining the fundamental frequency can be readily found by inspection. In Figures 3c and 3d, the wave forms for a normal pluck and a nazard pluck are shown. The wave forms are progressively altered by more and more overtones, but a repeating pattern of the same frequency as the fundamental can be found, again by inspection.

We would summarize our findings as follows:

1. The tuning method examined yields an approximation of equal temperament, with a small amount of random error being found in the observed pitches.

- When fourths and fifths are being tuned, sound decay will mask slow beats.
- When unisons or octaves are being tuned, the masking effect is at best slight, allowing octaves and unisons to be tuned with a high degree of precision by ear.

Hopefully, the information presented here will be useful in interpreting the results of adjustments made in the tuning process, particularly in the critical temperament setting process. It would appear, however, that even with the assistance of electronic instrumentation, a surprising amount of error in tuning can occur, chiefly due to error in the tuner's judgment, and the physical difficulty in making the often minute adjustments required. ☺

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- Handbook of Chemistry and Physics. 48th ed. The Chemical Rubber Company, Cleveland, Ohio. 1967.

Dear Mr. Haney:

John Shortridge may be the winner of the coveted Claude Jacquet award, but any man who would propose a Boy Scout Merit Badge for achievement in harpsichord construction (Vol. VI, No. 3) without even mentioning a similar goal for the harpsichord-minded Girl Scout is, in my estimation, not worth a broken string. In these days of increasing awareness of the female role in all fields of endeavor, I think it our duty to see to it that Shortridge's plan not be instituted without giving the girls equal recognition. In order that the female's true role in harpsichord building be recognized, I would like to propose a Girl Scout Merit Badge for jack assembly. I would also like to nominate John Shortridge for the Bobby Riggs Award for outstanding achievement in male chauvinism.

L. G. Eckstein
West Lafayette, Indiana

Table 1. Comparison of observed frequencies with standard frequencies.

Note	Standard frequency cps	Observed frequency, cps		Error, % of standard frequency	
		1st tuning	2nd tuning	1st tuning	2nd tuning
c	130.81	131.5	131.8	0.53	0.76
c#	138.59	138.8	138.5	0.16	-0.07
d	146.83	147.8	147.3	0.59	0.66
d#	155.56	156.1	155.3	0.35	-0.17
e	164.81	165.5	164.0	0.49	-0.49
f	174.61	174.5	176.5	-0.06	1.04
f#	185.00	185.7	184.6	0.38	-0.22
g	196.00	196.1	195.4	0.05	-0.31
g#	207.65	208.5	207.3	0.41	-0.17
a	220.00	220.5	222.2	0.23	1.00
a#	233.08	234.0	235.8	0.03	0.78
b	246.94	247.4	245.9	0.19	-0.42
c	261.63	261.8	261.7	0.06	0.03
c#	277.18	282.0	280.1	1.74	1.05
d	293.66	294.3	289.3	0.22	-1.48
d#	311.13	314.3	308.2	1.02	-0.94
e	329.63	332.1	328.4	0.67	-0.33
f	349.23	350.9	349.4	0.47	0.05
f#	369.99	371.5	371.8	0.41	0.49
g	392.00	392.2	391.9	-0.02	0.05
g#	415.30	418.2	412.9	0.69	-0.56
a	440.00	438.1	440.1	-0.43	0.02

Table 2. Cumulative intervals based on C-130.81 expressed in cents.

Note	Equal temperament	1st tuning	2nd tuning	Quarter comma meantone
c	0	4	13	0
c#	100	103	99	75
d	200	211	206	193
d#	300	306	297	311
e	400	407	391	386
f	500	499	519	504
f#	600	607	596	579
g	700	701	695	697
g#	800	807	797	772
a	900	904	917	889
a#	1000	1007	1020	1007
b	1100	1103	1093	1082
c	1200	1201	1201	1200
c#	1300	1330	1318	1275
d	1400	1404	1374	1393
d#	1500	1518	1485	1511
e	1600	1613	1595	1586
f	1700	1708	1701	1704
f#	1800	1807	1808	1779
g	1900	1901	1900	1896
g#	2000	2012	1990	1972
a	2100	2103	2100	2089

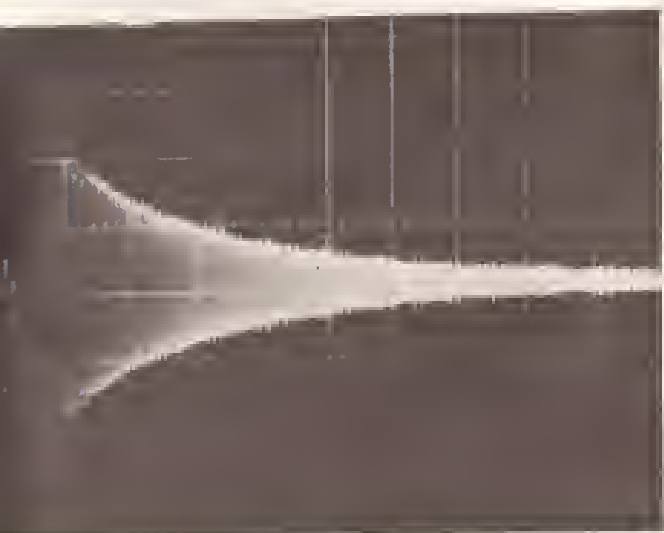


FIGURE 1A. WAVE ENVELOPE UNDER DECAY CONDITIONS FOR A SINGLE NOTE. NOTE THE ABSENCE OF BEATS. TIME SCALE LEFT TO RIGHT IS 2 SECONDS.

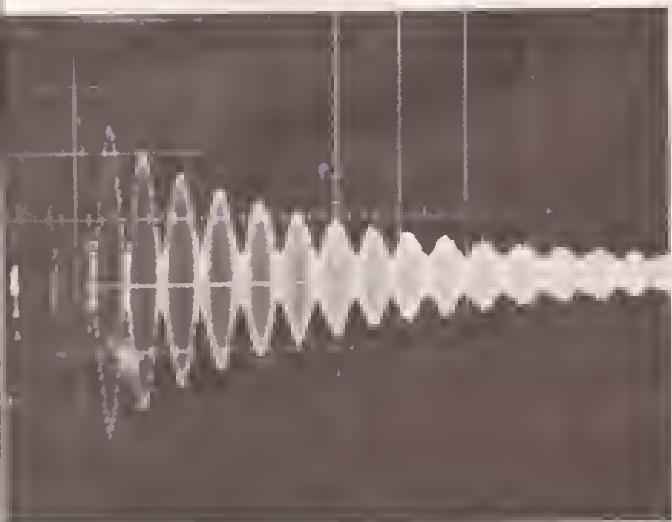


FIGURE 1B. WAVE ENVELOPE UNDER DECAY CONDITIONS FOR TWO NOTES NEAR UNISON TUNED TO PRODUCE RAPID BEATS AT THE RATE OF APPROXIMATELY 9 PER SECOND.

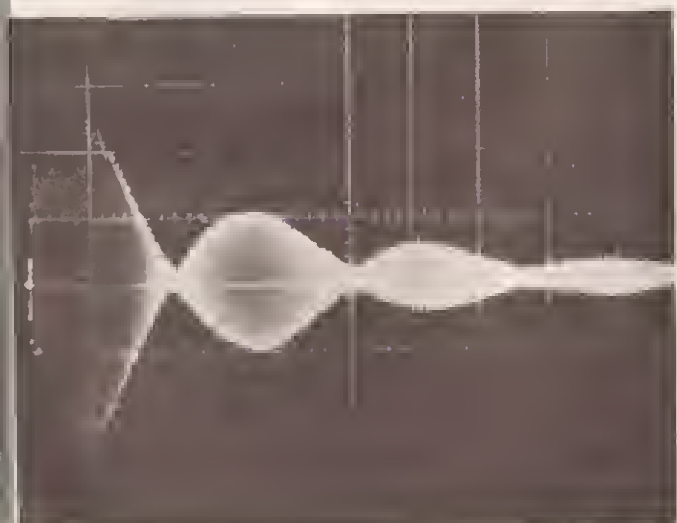


FIGURE 1C. WAVE ENVELOPE UNDER DECAY CONDITIONS FOR TWO NOTES NEAR UNISON TUNED TO PRODUCE SLOW BEATS AT THE RATE OF APPROXIMATELY 2 PER SECOND.



FIGURE 2A. WAVE ENVELOPE UNDER DECAY CONDITIONS FOR THE INTERVAL A-D TUNED TO PRODUCE AUDIBLE BEATS. TIME SCALE LEFT TO RIGHT IS APPROXIMATELY 3 SECONDS



FIGURE 2B. WAVE ENVELOPE UNDER DECAY CONDITIONS FOR THE INTERVAL A-D TUNED TO WHERE BEATS ARE INAUDIBLE.

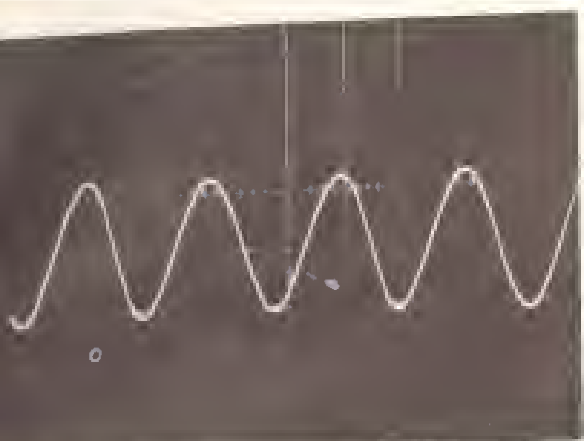


FIGURE 3A. FUNDAMENTAL WAVE FORM FOR A-220 OBTAINED BY FILTERING OUT HARMONICS WITH A BAND-PASS FILTER. TIME SCALE LEFT TO RIGHT IS 20 MILLISECONDS.

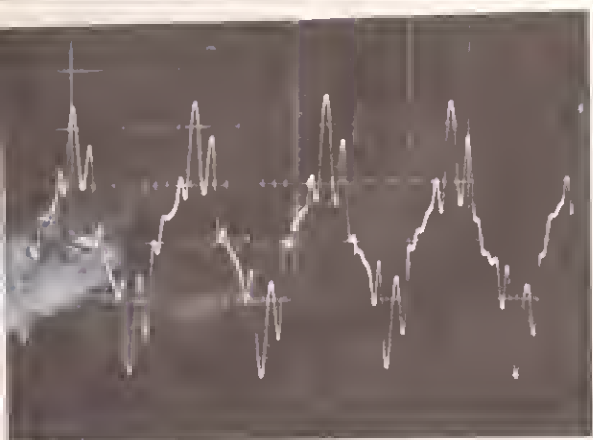


FIGURE 3B. WAVE FORM FOR A-220 WHEN PLUCKED AT EXACT MIDPOINT. NOTE DISTORTION OF FUNDAMENTAL WAVE FORM WHEN OVERTONES ARE PRESENT.

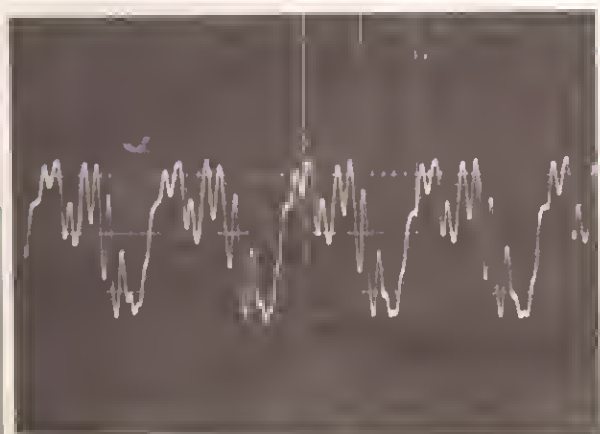


FIGURE 3C. WAVE FORM FOR A-220 WHEN PLUCKED AT NORMAL POSITION. ADDITIONAL HARMONICS ARE PRODUCED WHICH CHANGE THE WAVE FORM FURTHER.

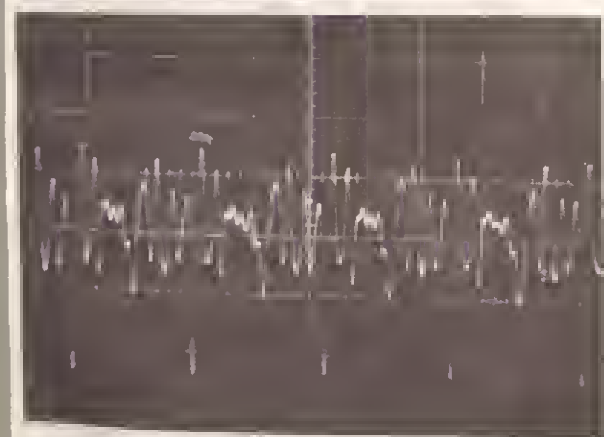


FIGURE 3D. WAVE FORM FOR A-220 WHEN PLUCKED CLOSE TO THE NUT TO OBTAIN THE NAZARD SOUND. MANY OVERTONES ARE PRESENT.



CONVERSATION

Richard Jones

**With
Harpsichord
Maker**



I first saw a Richard Jones harpsichord back in the winter of 1967 at a recital given by Allen Green, Associate Professor of Music at the University of Denver. At that time I was not able to speak with Dr. Green at length about his harpsichord, but in the spring of 1968 I interviewed him (Volume I, No. 2). In that interview he said "I did a lot of looking around, (for a harpsichord) writing to various people and I had quite a bit of correspondence with this fellow Jones in Los Angeles. The specifications and price of his instruments seemed to meet my needs and desires better than

anyone else. Several people I was able to communicate with recommended the Jones harpsichord so I finally decided to buy one. I still have that same instrument. Some day I hope to get a two manual, but I haven't gotten around to it as yet."

It was not until a number of years later that I had the opportunity to meet Richard Jones, probably the most prolific harpsichord maker in America.

After writing to him at 3421 Glendale Blvd., Los Angeles, 90039 our interview took place in a beautiful, modern home which exuded a Japanese atmosphere. The entrance was up

a series of winding steps through his gardens. Once inside, there was a sense of serene space. Large uncovered windows opened onto a forest of tropical plants and mature trees. To the rear of the house was a huge informal garden which seemed endless. No other buildings or evidence of man could be seen. Hidden in the many trees and shrubs were song birds which appeared to be rehearsed to break into glorious song at the right psychological moment.

After a tour of his home and grounds, Richard offered me a glass of wine which seemed to be the perfect selection for that occasion at that time of day. It was then that I learned that Richard Jones is founder of the Friends of California Wines and Vine President and member of the Tasting Panel of the Bordeaux Drinker's companion. It was only after a delightful and informative discussion of California wines that I was able to ask him about harpsichords.

HANEY: Harpsichord making on the west coast has certainly not been a major industry and, in fact, you were for many years the only builder. How did it all start?

RICHARD JONES: Let me give you the capsule version. This, of course, is a standard question and it becomes more vague and amorphous in my mind as the years pass.

I was trained as a chemist and am originally from Cleveland, Ohio. My family came to California when I was quite young, pre-teen age. I went to school here. In the early teens I became interested in music and took up piano which I studied seriously for a number of years. During my college years at U.C.L.A. I became interested in playing the harpsichord which was at that time, still pretty much a rare bird. The only instruments that existed here were two Neuperts and

Pleyel which was owned by Alice Ehlers. (Vol. VI, No. 1, 1973 *The Harpsichord*.) I became fascinated with the instrument and the literature. Then as a special project during my last undergraduate year I built a small spinet from scratch. This was not an easy project since at that time none of the books on harpsichords had been published. In fact, I had never really taken apart a harpsichord. This was in the mid forties.

I made two or three at that time all of which have happily been destroyed. I then left for military service which put a stop to anything remotely connected with harpsichord making.

When I left the service, I returned to Los Angeles. I was at odd ends. I had resumed my graduate work but didn't really know what I was going to do. I liked the music and since I had built the early instruments I knew I had an aptitude for the work. So I asked myself "Why not?" At that age one has a freedom of movement which makes it easy to strike out on a new project or venture.

HANEY: *Were you living in an apartment at that time?*

RICHARD JONES: No. This is a curious story. Robert Johnson is a Los Angeles man who is a great harpsichord enthusiast. He has owned several historical instruments. A Ruckers

which he now owns and a famous, small harpsichord called the *Iesses Cassus* which is widely reported because of its peculiarities. He was a great collector and he sold Neuperts here for a while. He was one of my first contacts in this field. He lived in a great, rambling, old Victorian house and just at the time I decided to embark on my career of building harpsichords, he decided to move. I immediately moved into his house which had immense rooms, high ceilings and lots of space. For that reason I was not faced with the dilemma of trying to find a place to start building instruments.

I simply then started to build instruments. That's all there was to it. I did not have orders during the first year. I built two instruments and sold these to friends. One of them an old Army buddy. I made a Ruckers virginal with the jacks located in the center of the soundboard which plucked the strings near their center. It is an extraordinarily wonderful instrument. You are limited with what literature you can play but it has fantastic tone quality. I made a variety of odd instruments, experimentally, to find out what they would sound like. I made a clavichord, a virginal, a spinet and instruments of that nature. I wanted to see what would work and what would not.

By the third year, which was sometime about 1954 I was beginning to get enough orders to keep me working on standard instruments. By that I mean one and two manual harpsichords. At that time I was only building and selling about six instruments a year.

HANEY: *How did people learn of your instruments?*

RICHARD JONES: It was all through friends and word of mouth. I did no advertising. In fact throughout my whole career I have not advertised. I find that these things follow a characteristic pattern which has become more and more clear over a period of time. Someone in a city will find out about my instruments and buy one. Then the presence of that instrument and word of mouth will induce people in that area to buy. In a large city this one instrument will create an interest which will eventually lead to selling five or six instruments in that area. Advertising is not required. A good brochure which presents information on the types of instruments available is important and works very well. But in every instance, and frequently in rather strange communities, the sale of one harpsichord has been followed, over a period of two or three years, with the sale of five or six instruments. Then it stops since that is the extent of that interested clique in that population center.

HANEY: *Since you had no one to follow when you first started building how did you know what to do?*

RICHARD JONES: I was very much influenced by my teacher, a man named Wesley Kuhnle. He was one of the true pioneers of the revival of the playing style of the early period. He was an organist and pianist, played extensively, and lived and taught in Los Angeles. In his later years, (he died just a few years ago) he began working intensively on performance style of the early period together with Sol Babitz another local musician. In connection with that, he began building his own instruments, a clavichord and several harpsichords, all of which were quite primitive but strikingly successful. He had a grasp of what the



HARPSICHORD NOTE

This beautiful instrument by Richard Jones of Los Angeles is a modification of his popular Model I. While his Model I has two 8' sets of strings, the instrument shown here uses one 8' set of strings which is plucked by both the upper and lower 8' jacks at different plucking points.

The standard Jones Model I, shown on the cover of this issue, consists of two manual, F-F, five octaves. Four sets of strings, 8'1, 8'2, 4', 16' and four sets of jacks: lower manual; 8'1, 4', 16'; upper manual 8'2. Coupler. Lute on 8'1 and 16', hand stops. Coupler and other stops on pedals.

The handsome case is 100" long, 43" wide and 12" deep.

As is obvious by the above specifications, the Model I is a full size concert harpsichord that fulfills the needs of the historical and modern literature for solo and concerted performance. Its four sets function as distinctive solo voices, combinations, and a full ensemble of excellent sonority and clarity. As is the case with many highly prized historical instruments, the 16' strings pass over a separate bridge.

This photograph, by James Shade, clearly illustrates the uncluttered design and simplicity of mechanical elements of the Jones harpsichord, which are important in creating a stable and reliable instrument.



photo by James Shade



performance style dictated in tonal quality as opposed to the only instruments which were known here at that time, which were European production type instruments. These gave grossly distorted views of historical tone quality.

I worked with him all through my graduate years from the mid fifties until illness made him retire in the late fifties. I regard him as an extremely powerful influence on me and an important influence on the revival of performance style in the western United States. This was long before Hubbard or any serious, modern scholarship had been done on the instrument. He created a *milieu* of grasping the real values in articulation and the relationship of style to tone quality in keyboard instruments. Unfortunately, he has received very little recognition as a pioneer since he did not write extensively. He also did an enormous amount of work on tuning systems during the forties and fifties. He prepared practical instructions on many different tuning systems which had been used in early music. He did not write and lived very quietly so he is not widely known. He was responsible for me pursuing this field in my early building years during the fifties.

I began my professional career with a friend, a man named Bernard Clayton and our name was Jones-Clayton for many, many years. Clayton only worked with me for about three years. At that time he very sensibly gave it up and went out to become an accountant and is now quite rich and successful in the world.

In the beginning, like all other harpsichord makers, I made everything myself. Keyboards, casework, everything. After four or five years, when I began to receive some recognition and orders were appearing with increasing frequency I tried to apply some common sense production means to the business. Which has not been done as widely as one might have expected it to have been done. At that time, I engaged a cabinet maker who built the casework and frame. I contracted with a keyboard company in England to make keyboards to my

specifications. I still, of course, finished the works of the instruments such as installing the soundboards, stringing, voicing and things of that nature. I had a small staff, usually about three or four plus the cabinet-maker.

My concepts have changed only slightly over the period of years. The appearance of my instruments has been altered very slightly in design. The tone quality has remained rather similar over a period of years although it is somewhat more robust at the present time due to design features. I have always felt that my philosophy has been one of making an instrument that served, insofar as I was able to make it serve, and insofar as my subjective value of tone quality was involved, the historical concept. Now those are rather serious modifications but they are real ones and I think no matter how objective the modern day maker who copies the historical instrument is, these values are still remarkably relevant. More so than most of the so-called "faithful copyists" would like to admit.

I have also tried to make an instrument which was available at a moderate cost. My instruments have always been relatively simple. I rarely build instruments with fancy casework, inlays, lacquer etc. While I have built elegant instruments I try to keep

simple, direct casework which features the inherent elegance of the line of the instrument. This keeps the cost down. At the present time my instruments remain probably the least expensive instruments available in the United States built by a professional builder.

Generally speaking, the net result of this is an instrument with mechanical stability and general technical refinement equal to any other modern maker. They were not always so in the beginning. I approached the field not, as most harpsichord makers so, from the point of being a craftsman or a cabinet maker or someone who is involved in mechanical technology, but from the point of view of the player. It took me quite a long time to master certain aspects of it which were probably quite apparent to such craftsmen as Rutkowski for whom I have the greatest admiration.

I think all builders are motivated, as Challis is, to push the instrument into some state of unheard of tuning and mechanical reliability. I can't say that I agree with Challis' solution to this problem but I have a great deal of admiration for his ingenuity and ability to recognize the problem and then to do something about it. I believe the harpsichord maker is a grossly frustrated individual by the very nature of the instrument which, despite



endless amounts of time and preparation and sophistication in building it, remains an object of constant adjustment and compensation. In addition to this, particularly in the United States, the work is not financially rewarding. Most people in the business could make two or three times more money in other fields and this is a significant factor if you approach it with any degree of objectivity. But of course, no maker does.

I think the situation has improved in the more than twenty years that I have been building instruments professionally. The market has been constantly expanding. At no time have I ever exceeded my orders and that dates back to the time I made four instruments a year to the time I make more than 20 a year, I have always sold them in advance of construction. I believe that is moderately satisfying.

What the future of harpsichord building is I have no guess. I am not entirely enthusiastic about the point of view of the faithful copyist. Needless to say, Ruckers did not faithfully copy somebody else. He made a contemporary instrument of functional requirements and I think that the copyists role, while very valuable at this transitional stage when we are establishing our knowledge of the nature of these historical instruments, it doesn't represent an end in itself. The instrument is still a viable, contemporary voice. Its historical importance is no longer a challenge. The instrument is entirely viable in terms of new music although not yet fully understood for that purpose. At least some people are experimenting with it, especially on a popular basis. The future of the instrument, as an instrument, is assured for its historical significance, its full potentiality for new significance and I think it should have the range of possibility for change. That is, there should be a metamorphosis to other potential uses of the plucked string sound in new music.

HANEY: *I am particularly interested in your first instrument. At that time the Hubbard book was not out, this magazine was not being published,*



there was very little harpsichord activity on the west coast and there was practically no construction literature available on harpsichord so how did you know what to do?

RICHARD JONES: I proceeded on the basis of rational thought, as far as I was capable of applying it. The instrument had to have a keyboard, it had to have a soundboard, it had to have some kind of frame to hold the strings. At that time there were a few books that were available to me. Galpin's book on early European instruments had a general literary description of the action but no technical information and there was fortunately Bessaraboff's beautiful catalogue of the instruments of the Boston Museum in which he does give a fairly technical description of a harpsichord.

My first instrument had no relationship to what we think of as an historical instrument. It was a rectangular box with a very short keyboard at the *wrong* end, by that I mean the narrow end. It had a set of strings going across a square soundboard and a most extraordinary set of mechanisms which function to pluck the strings. These things were all arrived at simply by experimentation with mechanisms to see what would work. I think at the time I built that very first one I had never actually seen a harpsichord jack. I find this experimenting is an inherent component

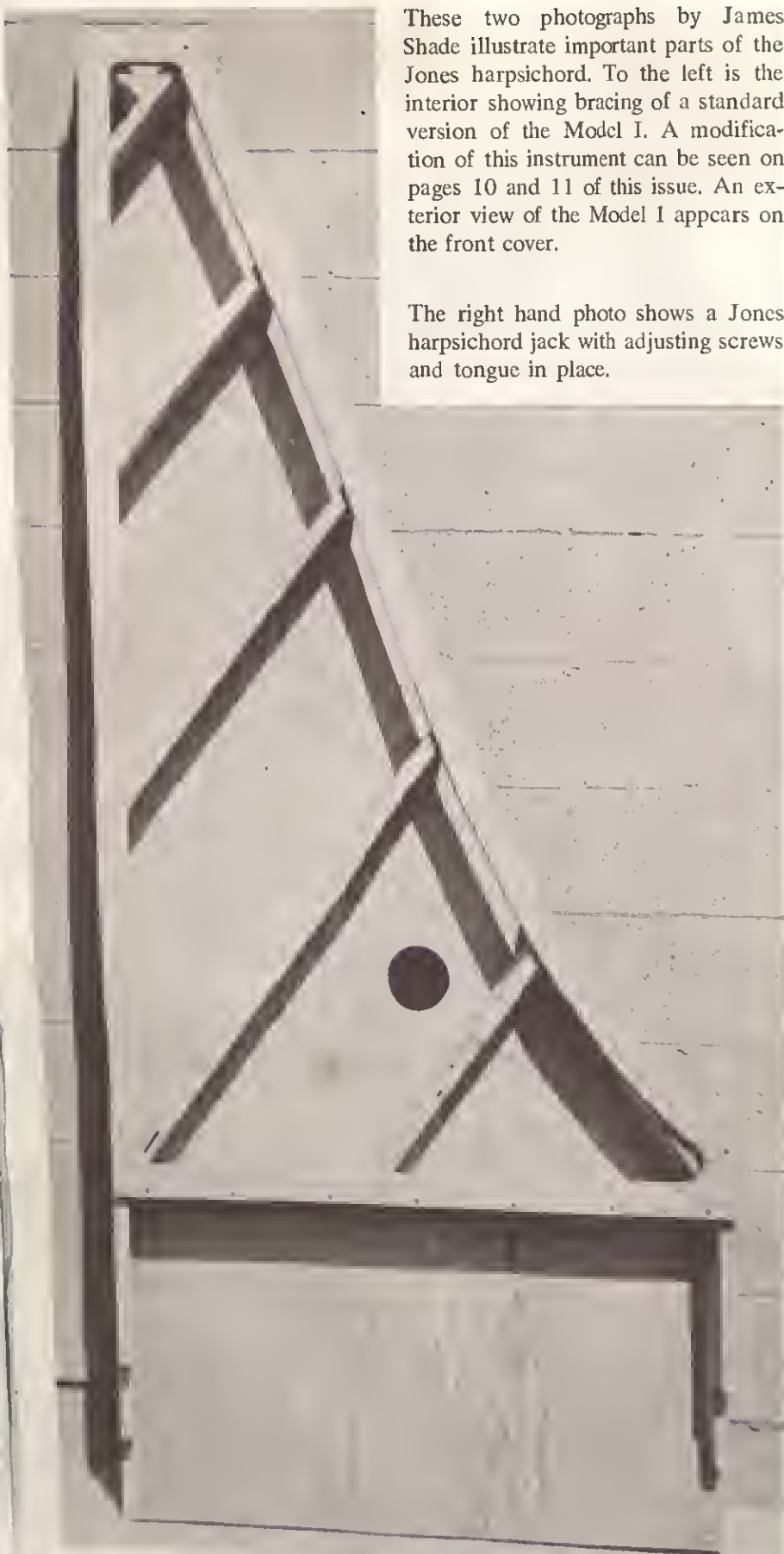
of most harpsichord makers. Over the years as I have talked with other makers I find that they have tried all the things I have tried. A good example is the search for plectra material. Everybody has tried wire and much to my surprise they have also tried bamboo which I have also tried. And I found to my surprise, when I looked through an old book of English patents, that all these things had been tried in the very earliest periods of harpsichord making. This not only includes plectra but ideas to stabilize tuning by placing weights on the end of the strings and other experiments. Certainly in this field there is nothing new under the sun, except new materials.

HANEY: *Where are your very early instruments now?*

RICHARD JONES: The first three or four I physically destroyed. Some people unfortunately spirited off the next three or four and have them hidden away somewhere. These were friends who had encouraged me to make them in the first place. I soon developed an instrument which was not unlike the early instruments sold by Wallace Zuckermann as a kit instrument. By the mid fifties I had much more practical experience and I believe the Russell book "The Harpsichord and Clavichord" had been published so all these things came together and I started building what are essentially fairly

These two photographs by James Shade illustrate important parts of the Jones harpsichord. To the left is the interior showing bracing of a standard version of the Model I. A modification of this instrument can be seen on pages 10 and 11 of this issue. An exterior view of the Model 1 appears on the front cover.

The right hand photo shows a Jones harpsichord jack with adjusting screws and tongue in place.



sophisticated historical-type harpsichords.

HANEY: *Have you ever pondered over the fact that of all of the millions of people who live on the west coast you should be the one man who started building harpsichords?*

RICHARD JONES: I have never reflected on the idea. Actually, I think a great many people are predisposed to the turn of mind that harpsichord makers have. Probably in only relatively few cases is this connected with music, secondarily connected with keyboard music and thirdly connected with the tonal character of the instrument which is essentially an appealing instigating force. Secondly my survival is predicated chiefly on plain stubbornness, probably what could be defined in modern language as neurotic pride and the willingness to survive on very little for a very long time. In other words, I think there are a lot of people who have dickered with the

idea but have not followed through with it for one reason or another. For example there are an extraordinary number of people listed in Zuckermann's book "The Modern Harpsichord" who are making two or three harpsichords a year but there are very few people who are willing to stake their lives on it. I find that there are no end of people in other professions who are terribly fascinated by the idea but they don't want to give up their expensive homes, cars and life styles to do it. That is another factor that limits the number of professional builders considerably.

HANEY: *When you built your first instrument, what did you use for a soundboard and why did you make that selection?*

RICHARD JONES: That is an interesting question. It was another one of those features like testing plectra that all harpsichord builders go through. I used the first wood which was commonly available in California. Redwood. It was pure accident because somebody happened to have a piece which was rather thin and could be plained down and it sounded good when you knocked on it. It wasn't dead. I tried it and, surprisingly, it was quite satisfactory. I have not since used redwood, but I find that a number of people have used it and regard it very highly as a satisfactory soundboard material. It has good resonance characteristics but it is a little hard to get the kind of cuts you want. This is probably one reason why it is not widely used. A California engineer by the name of Bud Witt, E.O. Witt, who used to live here and now lives in Wisconsin, has used redwood for quite a long time for his soundboards and I think with very fine results. I now use standard Sitka Spruce and during the last six years since I have maintained a large production of instruments I have been able to have my plywood especially made for this purpose. I can order enough that the plywood maker will actually lay out the boards. I use three-ply Sitka Spruce. The same is true of my case wood which is five-ply Philippine Mahogany core with Walnut veneer. I

have found this mahogany to be a very satisfactory wood for acoustical purposes and I am surprised it is not more widely used.

HANEY: *You must produce great numbers of harpsichords in order to have your wood made especially for you.*

RICHARD JONES: Well, I didn't realize it until I read Zuckermann's book. I was astounded to learn that I am probably the most prolific builder in the country. I have built more instruments in my relatively short career than Challis has in his very long career. That just amazed me. I had no idea that was so.

I still maintain a rule that when my orders back up for more than a year or a year and a half, I just stop accepting orders. My waiting time is very reasonable.

I think the essential features that I have arrived at which were not immediately apparent to me at the beginning of my career, was the lightness of the frame, the enclosure of the bottom, the thinning and shaping of the soundboard and the section of the bridges. I think almost everybody starting from scratch tends to grossly overcompensate in all these areas if one has no prior knowledge. Through the simple process of making hundreds of instruments I arrived at these things

independently and they were later confirmed by later information as it has become available through study of historical instruments.

HANEY: *How did you arrive at the final design of the instrument you now build?*

RICHARD JONES: In the late fifties, when I had a wider knowledge of harpsichords and some idea of the historical scale I came to some conclusions of the type of scale I wanted to use. I use a $13\frac{1}{2}$ " c above middle C which is not as short as some historical scales but certainly no where as long as most modern scales. After deciding on the basic 8' scale I chose to follow that rather closely with some modifications in recent years for the sake of modern cabinetry.

Also, this gives me a chance to devulge one of my pet peeves. I am not at all sympathetic to the current vogue for what is presently described as a French historical sound in terms of the customary Taskin instrument. I find this a rather bright and vulgar sound. It is not to my subjective tastes. My ideal concept is for a freedom in the expression of the tone. A certain blossoming out, unforced resonance.

HANEY: *Would you say then, that you lean a little bit more toward the English instrument?*

RICHARD JONES: Probably a little



more so than towards the French concept, or at least what is now touted as the French concept. I do not want to denigrate in any way the extraordinary beneficial influence of people like Hubbard and the Boston school in general which has been the great impetus to harpsichord design in this country and should be to most of the world.

HANEY: *Would you then say that your instruments are, in appearance, similar to French instruments and, in tone, more closely related to English instruments?*

RICHARD JONES: Yes, That is a well taken point. And I often have a great deal of difficulty explaining this to enthusiastic historical harpsichord buffs.

HANEY: *What range of instruments do you offer?*

RICHARD JONES: Our current catalogue, which has been current for a number of years, lists a very small one manual, one 8' instrument, similar in size but a good deal lighter and clearer in tone quality than the first Zuckermann instrument; a slightly longer instrument, one manual, with an 8' and a 4'; a slightly longer instrument with two 8's; then three two-manual instruments. One is a short two-manual with five octaves and one 8' and one 4' but with three sets of jacks. The upper 8' playing on the same string as the lower. It is basically a small, convenient instrument. Then a straight historical two manual that has 8', 8' and 4' with the usual disposition and then we also build one with the 8', 4', and 16'. We have only been building this very large instrument in the last several years.

HANEY: *Of course there is a cost factor involved, but what is your most popular instrument?*

RICHARD JONES: There is no one instrument which is more popular than another. It scatters back and forth and it changes with time. The instrument in this room which has two 8's I first built in the mid fifties. At that time I probably didn't sell six of them in a matter of three years. Last year, I built 20 of them and sold them all. This represents the current trend and more

informed taste as to what an instrument with two 8' sets can do and its value to the player. I think this is one of the current benefits of the current dissemination of information about the instrument. It fluctuates with extraordinary variety. One year I made seven clavichords and since then I believe I have made one. There seems to be very little demand for clavichords here within the last seven or eight years.

HANEY: *Have you felt, at times, that you were very much alone and out of the stream of what was going on in harpsichord building by being located on the west coast?*

RICHARD JONES: Yes. Very decidedly. First of all, for ten or twelve years I had absolutely no one to talk to. After my teacher passed away there were no other builders until the publication of the books began including people who make kits and so forth. For a decade I was absolutely isolated here. That is no longer the case now, of course. I sometimes wonder if it has not begun to deter me. I feel somewhat like the whole thing is getting

out of hand now and I don't feel like the pioneer I was.

There is no question that the east coast is more sophisticated about the historical instrument and much more prone to produce a market for harpsichords. The people who live here are not nearly as sophisticated, a fact that I rather like. They are not interested in the instrument as an expensive piece of furniture. Most of the people I sell to on the west coast are sincere people who are of moderate means who want to buy an instrument to play. This gratifies me. I think many people have succumbed to a certain period of preciousness which is natural, and probably quite right, in the historical revival of some of the eastern builders. There is certainly always a market for the brilliant preciousness that characterizes Rutkowski's work. I think there is going to be a declining and limited market for the kind of historical preciousness that characterizes some other maker's work and the kind of stupendous historical preciousness that characterizes the work of Skowronek, however valuable it may be in establishing certain norms that we have not previously understood.

HANEY: *Do you find people in California who are impressed with the fact that an instrument comes from a European builder rather than an American Builder?*

RICHARD JONES: Oh yes. Yes. And that is still a big factor, although it is nowhere as big a factor as it was 10 or fifteen years ago. I think the local European harpsichord dealers still do very well. There are still people who want an instrument made in Europe and an instrument which is sold on its almost mythical reliability and other such considerations.

HANEY: *Are you ever called upon to work as a technician on other than your own instruments?*

RICHARD JONES: Yes. In my early years I did a great deal of that type of thing but I have tried to limit it in the last several years. We have a great number of Ncuperts and Wittmayers here. There is a whole school of Wittmayers in Los Angeles. Largely due to one of the prominent local teachers



being a Wittmayer fan. I have a great deal of admiration for Wittmayer's ingenuity and competence in doing what he does although I don't necessarily agree with the nature of the instrument. I have worked on many German instruments, some English instruments, although we do not have many English instruments here because they do not take well to California climate. They suffer greatly and so there are not many of them. We have some Challis instruments also. There are no really interesting historical instruments outside the instruments owned by Boh Johnson.

HANEY: *Are your instruments sold primarily in California?*

RICHARD JONES: I could say primarily in western United States.

HANEY: *Do any Hollywood celebrities or famous people own your instruments?*

RICHARD JONES: Yes there are some people you might call "famous" who own my instruments, but through the years I have consistently tried to avoid the idea of making instruments for professional players. I have observed, with some eastern makers, that this leads to more trouble than it is worth in publicity. A good example is the famous flap that took place over the instrument made by Rutkowski for Yale and Kirkpatrick. It is a very thin line, but ultimately, I suspect that harpsichord players are more neurotic than harpsichord makers. This makes frequently for clashes between players and builders. Perhaps not actually clashes, but a famous player can change his mind and switch to another builder which gives the impression that the new builder is producing a better instrument, when in fact it is often just a different type of instrument.

Somewhat along similar lines and something about which I speak with a certain amount of petulance, is that throughout my whole career, no American professional player has ever come to see me. Every European player who has come to this country has come under their own volition, sought me out, and consulted with me. For instance, when Leonhardt made his first tour of the United States I had

never corresponded with him or had no idea who he was. He reached me under his own power and asked to use one of my instruments for his recital here and in Minnesota. When Rafael Puyana came to the United States he came to see me, as have many other European players. But no Americans. I think this is a curious little provincialism of Americans, especially in regard to a west coast maker. This has always annoyed me, not seriously, but enough to speak of it. In fact, at one time I was not accepted into the local harpsichord circles which were, at that time, dominated by Mme. Ehlers until after Leonhardt had come and refused to use her Pleyel and used my instruments at University of Southern California.

As far as the motion picture industry, Dick Van Dyke, who is primarily a television comedian, has owned my instruments over the years and has been a faithful player and has worked assiduously with the music of Bach in what spare time he has. There are a number of lesser known television character players who own my instruments. In fact there is rather a surprising number of professional actors who are interested in harpsichords and harpsichord music. They tend more to be supporting players. There are exceptions like Van Dyke and Phyllis Diller, although I believe she is more amused by the whole idea than some of the character actors. However she does play harpsichord.

Probably one of the other most famous persons who has had one of my instruments was Frank Lloyd Wright, the architect. He had one, I regret to say, at Taliesin West. This is a place in the desert near Scottsdale, Arizona with a hole in the roof right above the harpsichord so when it did rain it came straight through on the harpsichord.

HANEY: *Is the instrument still there?*

RICHARD JONES: I don't know. It may still be there although Mr. Wright died some years ago.

HANEY: *Did he play harpsichord?*

RICHARD JONES: He was fascinated by the sound and he owned a big Pleyel which he had at Taliesin East. He

grasped a certain place for the arts in his community scheme of things. His community would play and stage musical performances, drama, dance and that sort of thing.

HANEY: *You said he played?*

RICHARD JONES: I never heard him play on my instrument, but I understood he played oddly on the Pleyel. I don't think he studied the literature of the period.

HANEY: *What advice do you have for a young man who wants to become a professional harpsichord maker?*

RICHARD JONES: Young men come to me with that question all the time. My ultimate advice is "Advice be damned." You are going to build them or you are not. Regardless of skill, regardless of your aptitude; either you are motivated to do this very strange, economically unrewarding, socially isolating activity or you are not. And that's the way it is. I wish I had better advice for these people, but the inherent limitations of it, from every social and economic consideration, are so great that you must be grossly motivated to do it, and if you are that grossly motivated you will do it in the face of whatever anybody says.

HANEY: *Of the people who have worked for you, have any of the people gone on to make harpsichords on their own?*

RICHARD JONES: No, they haven't. Over a period of years I have had 10 or 12 young men who were interested in the instrument, but with the youth today, they seem to be more interested in being craftsmen. I am very much opposed to this concept. It is some sort of abstract philosophical idea that is opposed to mass production and is grossly unrealistic. There is no such thing as a craftsman in the abstract. There is only a man who makes something more or less well. And this can be done in mass production.

In fact, I believe that mass production is a greatly misunderstood event. Only certain technical problems have kept it from being recognized as one of the greatest boons to mankind. Such as the moving assembly line and

other considerations that deteriorate quality. Mass production itself does not, at least it need not, deteriorate quality.

None of these young men who worked with me has gone out into the field because they were not sufficiently motivated. Most of the people who find it an interesting idea change their minds when they learn what the personal deprecations and frustrations are.

HANEY: *How do you find the people who work for you, and after you find them what process of selection do you use?*

RICHARD JONES: First of all, they find me. They come to me under their own power. I should say five or six people a year call up and want to work either for some small amount of money or for nothing. They have to have some aptitude for working with their hands and some interest in the field, in the idea of harpsichords or music or musical instruments.

If at the time somebody calls I need help at that particular time, I talk with them and if they are at all congenial, if they appear to have any aptitude, I hire them. In about a third of the cases, they turn out to be so deficient in the mechanical skills that they can't really be used no matter how sincere or how musically oriented they might be. Maybe a third of them are quite efficient in mechanical skills and are of real value. The rest are border line cases.

There is nothing special or secret about harpsichord making. It is an incredibly tedious job of dealing with innumerable, repeated, small operations of assembly. One is confronted with an immensely routine operation in simple day to day work. A routine which is fraught with frustrations, the kind of frustrations which are inherent with the nature of the instrument, the kind of frustrations which are inherent with the situation of a small businessman trying to obtain parts from an economy that is geared to making ten million when I want ten. Happily, I have found enough people who are sufficiently amused by the idea of making ten in their spare time

while they are making ten million for an aircraft plant. That's been the case with my plywood supplier, my metal stamper and my plastics moulder. There are people and companies in which the scope of their business is so far beyond anything that I could ever realistically be involved in that they have worked with me for the sake of doing something odd and interesting.

HANEY: *Is your shop a part of your home?*

RICHARD JONES: About ten years ago I got a separate shop which was an old cottage which had a shop built on to the back of it for an antique restorer. For the first time in my life I lived away from my work. Before that I had always lived with it. Contrary to what Challis seems to feel in his statement to your magazine, (*Vol. II, No. 3, pg. 15*) I felt it was infinitely better to get away from my work. I work more efficiently when I go to my shop and work the day, then leave. I have a definite schedule where before I could easily stop to have a cup of coffee or chat with friends. When I am at the shop, I am at a place of business and so I work.

Several years ago I had a serious illness and actually closed my shop for a while. But during my recovery during a period of about ten months I finished about 12 instruments one at a time and sent them off, but for me that was like a 100% vacation. When I started production again it was about that time that I changed the name to Richard Jones Harpsichords and stopped using the name Jones-Clayton which I had used for so very many years.

The attempts to make the harpsichord building industry a viable enterprise in the American economy have notably failed, beginning with the famous Cannon Guild effort in Boston. HANEY: *Tell us about that effort.*

RICHARD JONES: A Los Angeles millionaire named James Cannon was a harpsichord enthusiast and he attempted to set up, with great capital, a company reproducing harpsichords in Boston. This was with the association of Eric Herz and the designer

Caleb Warner who has made electronic harpsichords. He put a fair amount of capital into this enterprise, obviously had the technical knowhow and had a shop with 30 people employed, a public relations man, vast quantities of brochures and set up distributorships. They made a rather eclectic product. The harpsichord they sold was a cross between a modern formica machine and a traditional harpsichord. It may have failed because of that reason, but for whatever reason, it failed.

A man named Burton, who had no previous expertise with harpsichords, but with capital and business knowhow, also set up an enterprise to do a similar thing, but that was later discontinued and the company now produces harpsichord kits. The failure of his original concept, I think, was largely with the difficulty in setting up distributors, transportation and things of that nature.

One of the difficulties in a mass produced and distributed product, when that product is a harpsichord, is that the cost is too high. I had an arrangement a few years back with a company in Chicago, which is the second largest music wholesaler in the United States, to sell through their catalogue. But the markup involved in these ordinary business processes in the United States is so vast that it makes the final cost to the consumer enormous. The wholesaler marks up your construction price about 50 per cent and then the retailer marks up that price by as much as 100 per cent. Because of that, there is just no possibility (within the present structure of the general economy in this country) for treating these instruments as mass produced and distributed products to be handled in the ordinary way. Ultimately, it must return to this condition of the individual maker selling his product directly to the consumer.

I occasionally will sell through dealers, giving a very small markup, but then it is only a dealer who is especially interested in this product who will be willing to accept a very modest profit on the sale. In European countries where the cost of labor and the

ultimate cost of the instrument is much, much smaller, then it is possible to sell through dealers with a competitive price.

I remember, a number of years ago, the daughter of the German harpsichord maker Sperrhake came to the United States and visited me. I was discussing harpsichords in general to her and when I mentioned what I was paying my cabinet maker she gave a lengthy expression in German the gist of which was; "Good God, daddy doesn't make that much!"

I'm inclined to give myself credit for having brought a fair amount of common sense and business approach to harpsichord making which has not been characterized in the work of other makers. I have organized it by sub-~~ing~~ parts, by more explicit cost accounting than has occurred to any other maker. I was surprised to find it was true in reading through Zuckermann's book. I have made it perhaps as economically viable as it can be in the United States.

I think I make quite a good instrument, by no means a straight historical instrument, but an instrument that is tonally quite satisfying. I really wish that it were possible to pursue harpsichord building as a realistic business such as the English makers did. Historically, the English builders were successful, well accepted in society with clear cut, satisfactory status and, according to the information on their estates, very successfully economically. Today, we must accept where we are, and what we are, and it is just not possible now, nor do I think it will be possible in the future of the United States to achieve that coveted status of the early maker. This brings up the matter of the amateur maker. I am very sensitive about this matter.

I suppose all real harpsichord makers feel similarly. Either you have guts enough to risk your livelihood on this work as a profession or you don't. You either are a harpsichord maker, more or less successful, or you are an amateur. In my opinion, people who do not depend on harpsichord making for a living, are amateurs. I think

it is important to segregate these two classes.

As far as dealing with professional makers, I think your publication arrived on the scene at a very fortunate time when harpsichord makers are not nearly as cantankerous as they used to be. I have always been known as the most cheerful and acrimonious harpsichord maker in the world (laughter), and I am only that by accident, on occasion, or when I am sick. (laughter)

HANEY: *Since you are one of the pioneer American harpsichord makers, do you have any final comments about harpsichords or harpsichord makers?*

RICHARD JONES: Since you have had many interviews with harpsichord makers, I am sure you have observed that they are rather an isolated, unique breed. They tend to be unnecessarily prideful. I think in recent times they have become better tempered and more public relations conscious than they used to be, but the fact is that almost all of us are doing our own thing in our own way and we are going to do it in our own way no matter what anyone says or wants.

Even though harpsichord makers appear to be less mad than they once were, in reality, they are all still quite mad. ☺

SOME REMARKS ON DELRIN PLECTRA

by Richard Jones, April 1974



Photo by James Shade

Since the adoption of delrin plastic for use as plectra by most professional makers of harpsichords, there has been considerable discussion of the problems and characteristics of this material in the particular application.

Perhaps some further comment on this and other materials that have been used in the past would not be amiss in view of the recent remark of Sol Babitz in the "Bulletin of the Early Music Laboratory, No. 10." Mr. Babitz remarks, in an entirely isolated context, that, "Plasti (sic) harpsichord quills are today justified because when one alternates plastic and feather quills one cannot hear any difference between the two. A more scientific procedure (sic) would be to compare the sound of plastic and feathers on the SAME string. The feather — for some reason always has more soul." I would certainly take issue with the concept that delrin plectra are justified in any builder's mind simply because they sound identical to quill, which they certainly do not. Their justification is that which has always motivated builders to search for new plectra materials: the combination of durability and desirable aesthetic qualities of articulation. Given certain parameters of length of scale, weight of stringing and general construction of the instrument in which the plectra is functioning, there can be no question of the validity of Mr. Babitz' conclusion about quill. However, in reality, there are only a very few instruments existing either

antique or of recent vintage, which conform to the combination of qualities that make quill plectra not only practicable but aesthetically desirable. It has been my experience over the years that only a very few players will take the time to learn the technique of properly cutting and voicing quill plectra in such a manner that the plectra will have optimum durability and proper voicing. Poorly cut quill plectra, of course, are very short lived and difficult to voice evenly.

We should not leap to the conclusion that the appearance of various plastic materials has suddenly prompted the search for more durable materials to substitute for quill plectra. Indeed, it has been my subjective observation as a builder, that every serious peer known to me has made intensive, often bizarre, experiments with improbable materials to achieve durability. One has only to glance at the registry of patents concerning musical instruments in Great Britain, (Commission for Patents. Patents for Inventions. Abridgement of Specifications relating to Music and Musical Instruments. (1694-1866). London, Eyre and Spottiswoode, 1871. 520 pp.) to be confronted with a great array of potential materials even including whalebone. We are all acquainted with the interesting experiments in plectra recorded by that inveterate provincial tinkerer, T. Jefferson. My own experiments included such materials as various wires, the bark of bamboo shafts, turkey quills, and such early plastics as nylon, lexan, polypropylene, etc. The obvious desirability to the professional maker of harpsichords of delrin plectra lies in its, in so far as is presently known, resistance to mechanical wear and structural failure; in combination with relatively desirable qualities in tone production. The builder, sending an instrument to an unknown person, in an unknown climate, and from whom he may never hear again, is obviously concerned to make it as reliable as possible within the context of the aesthetic parameters he has set for himself.

The virtue of the well cut quill plectra, in an instrument of relatively

short scale, lightly strung and of light resonant construction, cannot be gainsaid. Its clarity of attack, and highly characteristic articulation on release of the string together with the possibility of inflection in the touch are certainly unique. However, these combined factors exist in relatively few surviving historical instruments. The compromise of any of these factors begins to diminish the effectiveness of the quill plectra. And compromise there is: both in the reconstruction of historical instruments which are generally restrung with modern tempered steel wire; and in the copying of historical prototypes which are generally fraught with innumerable compromises of structural materials of all types, to say nothing of the stringing.

The present history of the use of delrin has been full of change over a relatively short time; from the early use of stamped plectra from heavy extruded sheet made for industrial use (that required mechanical voicing and were consequently subject to breakage), to the present range of extruded thicknesses that give a wide variety of appropriate voicing, as stamped, without modification, to the ingenious molded plectra in a variety of sizes and cross sections by Schutze of Heidelberg. It has been a brief history of continuing improvement in the application of the material, probably the most promising in its total viability since quill. Given modern instruments, and even historical copies with their longer scales, slightly heavier construction and steel strings, there is certainly considerable reason to suppose that delrin, if it fulfills its promise of durability and with further refinements of application, is the preferable material.

But, we can neither exclude nor ignore the passionate devotee, who, blessed with an appropriate instrument, develops the skills, devotes the time and dedicates himself to the preservation of the voicing that will give the optimum aesthetic response to the application of the correct fingering and musical techniques, without which the mechanical voicing is merely frosting on a romantic cake. I have not yet met him.

LETTERS

Dear Mr. Haney:

In the February 1974 issue you refer to the Durham-Duplex blade. I have been using these for years primarily for cutting fine sections of tissue for staining but also when voicing a harpsichord. The Lipshaw Manufacturing Co., 7446 Central Ave., Detroit Mich. 48210 makes a handle to hold these blades. The handle permits the blade to be held at any angle and both edges are available. The blades, though relatively large, tend to cut the fingers that hold it when used as is, and breaking the blade in half as you recommended also has its dangers as I have a scar to prove it. The handle is listed as No. 527 Lipshaw Utility Razor Blade Knife and the cost is about \$7.50.

The method of pin identification you suggest in the same issue (Volume VII, No. 1) developed a buzz when used it some time ago. A simpler, and to me, more satisfactory manner is: a sheet of cardboard one inch high and slightly longer than the row of pins (made from shirt cardboard) with the names of the pins in the right row marked on it. It is slid between the pins and the side of the case and *Voila*, you are in business.

Daniel Leavitt, M.D.
Roanoke, Virginia

Dear Mr. Haney:

A year or so ago your magazine had an article on Mr. J. Witcher, musical instrument maker whose address was P. O. Box 552, Forestville California 95436. Almost a year and a half ago I sent Mr. Witcher \$100 for his clavichord kit. I have still not received the kit and he still has my \$100. My last two letters to him have not been answered, although a year ago last March he responded to a letter of mine by assuring me that the kit would be shipped shortly.

As a subscriber to your magazine I felt you and your readers would be interested in my experiences.

Paul Sontag
Cyrus, Minnesota

Editor's Note: If any other readers

have had difficulty with Mr. Witcher, please drop us a line and we will try to investigate the matter.

Dear Mr. Haney:

What a lovely article on Denise! The way you describe the house and atmosphere brought back many memories. We were there when Wanda was alive and also once afterwards and we too felt that she was still there. Of course, she is constantly in my life — daily, when I practice, when I perform, when studying and probing for deeper Bach understanding. You would have enjoyed Saint-leu-la-Forêt. This was such a unique place, it was the greatest privilege of my life to be allowed to study there. We went on daily walks through the lovely forests with Wanda. It was there that we met the human being. She was as great a person as she was an artist. I may have mentioned to you before, that she was very fond of me and called me: "Mein Kind . . .".

This brings us to the next Harpsichord Festival which has been scheduled for September 13, 14, 15, 1974. There is already quite an enrollment but there is room for a limited additional number of participants. There will be, as usual, seven sessions again, devoted to Joh. Seb. Bach: French and English Suites and Partitas. Also W. A. Mozart: survey of Sonatas, Rondos, Fantasias, Variations, following their development and discussing the choice of piano or harpsichord, the same way we did last time with Haydn. Because this Haydn survey was such a success, everyone asked to do the same with Mozart keyboard works this time. And, of course, there is always Bach.

If any of your readers want detailed information on our Festival they should write to me and I will be happy to forward everything necessary.

Hilda Jonas

3942 Ledgewood Drive
Cincinnati, Ohio 45229

Dear Mr. Haney:

Will you help us get a very promising new venture under way? You have been very generous toward other such things in the past, and it would mean a lot to us in this first year if

you might do the same for us.

At the famous National Music Camp, Interlochen, Michigan 49643, there is an annual Adult Post-Camp Conference. That is, after the young people who have attended the regular 8-week session have gone, there is an additional week of activity aimed at satisfying the needs of various adult music enthusiasts — chamber music players, piano teachers and ensemble pianists, etc.

This time we are adding a Harpsichord Workshop. From August 20 to the 27th, we are inviting all interested to a combination building/playing institute with some remarkably practical features:

(1) During the course of the week, Mr. Keith Hill, a professional builder from Grand Rapids, will supervise the final assembly of a large 2-manual Hubbard kit harpsichord. He will give daily lectures, illustrating each step of the work, covering such topics as soundboard preparation and installation, soundboard finishing and decorating in 17th and 18th century styles, stringing, action installation and regulation, voicing, finishing techniques including gold leafing, 18th century building vs. today's woodwork-ing practice and technique, tonal considerations during and after construction and correcting problems that may develop while building an instrument.

(2) I will hold a daily session on performance practice and study, and will coach performances by participants as well as demonstrate such points as: adapting a piano or organ technique to the harpsichord; the medium and the message; the meaning of the 18th century, then and now; editions and supporting literature; ornamentation and embellishment; fingering and phrasing; rhythmic conventions and the coming revival of the 18th-century fortepiano.

(3) There will be opportunities for some of the better sight-readers and experienced players in attendance to play in ensembles with the many string enthusiasts in residence for the week of chamber music coaching.

(4) The low cost of tuition and room and board (American plan)

should appeal to those who might come *en famille*. \$45 covers tuition for the whole week. Room with three meals per day for seven days starts at just over \$100. We frankly feel that this is an outstanding bargain, with the double chance to talk over problems of playing AND observe the actual construction of a kit, with all the invaluable tips about what to do (and what *not* to do.)

If you can work us into your next issue, we would be so grateful. This could develop into something even bigger in the future, but we must have adequate attendance this first summer. We have a comprehensive folder which gives additional information and a registration form which is available by writing to Adult Music Conference, National Music Camp, Interlochen, Michigan 49643.

George Lucktenberg
Harpsichord Instructor
National Music Camp
Professor of Music
Converse College

Dear Mr. Haney:

Launched only four years ago as a British Columbia Centennial project, the Shawnigan Lake Summer School of the Arts has achieved international recognition for its specialized programme for the benefit of advanced students. This year, the school will run from July 29 until August 28 and will include a wide range of Master classes and Seminars for various musical instruments. Harmon Lewis heads the harpsichord and organ department during the summer session. Other faculty members include: Gary Karr, Double Bass; Mihaly Virizlay, Cello; Jerzy Kosmala, Viola; Robert Aitken, Flute; Bela Siki, Piano; John Kozar, Piano; Ian Brown, Piano; Heiichiro Ohyama, Violin and Viola; the Reger Quartett; the Orion Piano Trio, and Ako Ito and Henri Dorigny, Duo Guitarists. The registration fee is \$35. The fee for boarding students is \$565. Additional information may be obtained by writing to No. 3307-1733 Comox Street, Vancouver, British Columbia, V6G 1P6 Canada.

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plications after April 1 require \$75 non-refundable deposit. Write: Aston Magna Foundation for Music, Inc., 333 West 70th Street, New York, New York 10023.

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